Is There an Optimal Bibliographic Software Product for End Users?

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ABSTRACT

Personal bibliographic database software is one of many products being marketed to researchers. A review of the literature reflects a growing interest in using this software in office settings. Five bibliographic database software products are compared and eight important attributes are identified. We report experience in user training and in providing support by offering discounts on software sold through the library to patrons.

PERSONAL bibliographic database software is defined as a bibliographic record database management program designed to serve one person on a personal computer. Vendors of these programs claim that their products offer an efficient, easy way to manage files that include reprint articles and general reference information, within one's office. Each year these bibliographic software programs are made easier to use, while their capacity increases. Indeed, bibliographic software has the potential to change how people identify and acquire print and nonprint information. Researchers are bombarded with product announcements for a variety of computer software programs, but usually they do not have the time to assess competing products.

Serious library users, especially those engaged in end-user searching, are usually the most interested in how this software can improve access to and management of the literature. A natural extension of library services is assisting patrons in selecting bibliographic software.

*Mr. Galla was working on his M.L.S. independent study course when this article was written.

BACKGROUND

The development of personal database management may be traced in the library literature to the early 1980s. In 1983–84, articles were restricted to announcements and short descriptions of a limited number of software capabilities. By 1985, most articles dealt with patrons using "gateway" or "front end" software. Hawkins and Levy defined "gateway" as "an interface between the users and the databank that performs the functions of dialing the telephone call, selecting the communications network, connecting to the databank, and sending the user's password" [1, 3, 4]. In late 1985 and early 1986, articles continued to focus on evaluating search proficiency and on reporting end-user training.

Little attention was given to management of citations after the search was completed. Hubbard's "Reprint File Management-Software" provided an early review of ten software products [2]. Cost was listed as the possible deciding factor when selecting.

Hedden, in 1986 [5], and Wachtel, in 1987 [6], reported different conclusions about Sci-Mate and the Searcher's Tool Kit. Readers were in a quandary as to which software package provided the most benefits in managing bibliographic data.

With patrons' considerable interest and office automation's proliferation, librarians have the opportunity to provide professional advice and training. Library-based services could include owning several bibliographic software products so patrons can compare software; training patrons to download records; and presenting facts and updates about commercially available databases. In varying degrees, health sciences libraries have begun to provide some of the services listed above.

Experiences

For the past six years, the Audiovisual/Computer-Assisted-Instruction (AV/CAI) Department of the Lyman Maynard Stowe Library has been providing patrons with services for personal computer applications. The major investment is acquisition of over 200 software products ranging from five personal bibliographic databases to word-processing packages. The library has also recently installed a fully automated library system and has supported several in-house CD-ROM products, available free for use by patrons.

Five bibliographic products owned by the library were recently compared for potential application to a specialized subject (Table 1). The user would expect to search relatively few databases with the objective of locating publications on a specific and narrow subject. An important feature would be the ability to edit and add notes to the files. The database would probably replace a manual reprint file index and products would be expected to be used over a three- to five-year period.

Table 1 compares software products by capabilities and by level of customer support offered by vendors. A uniform set of four bibliographic records were used to analyze each product's approach. The software varied in reception and manipulation of bibliographic information, in types of reports and bibliographies generated, and in level of customer support. As with most software, each product handled work activities in a unique way. Instead of rating the superiority of each product, a brief reaction describing each may be more helpful, since patron needs differ. The Sci-Mate package was quite flexible and judged the best for report generation. Searchers' Tool Kit was the best editor and bibliography producer. Reference Manager has the clearest written manual and was easiest for inputting bibliographic punctuation formats. The Ref-11 software program was best in using macros (two keystrokes to produce an entire title), for journals, and in organizing key word lists alphabetically. Sapana File is simple to use.

Because one product has greater ability in one function does not mean that the other products are unacceptable for the same function. Nor should it be inferred that a product will not be upgraded; when contacted, each vendor indicated that improvements were underway.

Perfect Bibliographic Software: Eight Attributes

Another useful approach in analyzing bibliographic software is the description of a hypothetical "perfect" 1988 product. Users would then have generic functions to compare to new or existing products, such as Artfile or NurseSearch, and to match capabilities with their needs.

The most important attribute is the ability to accept and generate ASCII files for the bibliographic database. ASCII files give the owner the option of upgrading to a better product at any time; if the software does not produce ASCII files, records entered into the present system must either be abandoned or rekeyed. This can be called the "banking" factor—one would not choose a bank that refused to allow withdrawal of savings if a better bank were located.

The second most important attribute is the ability to download records automatically from commercial bibliographic databases into the office system, because the greatest expense in generating a database is usually not the hardware or software, but the work time used to create records. In May 1987, to download 150 records with abstracts from MEDLINE cost fifty-four dollars and took ninety minutes at 1200 baud. Even at eighty words per minute, it would take a typist days to keyboard the same information (approximately seventy pages, single-spaced). Premium software can automatically download records from many commercial database files.

The third factor is the flexibility of the product's input/editor. After the database has been built, notes and additional records will surely be added. The text editor, which is basically a word processor, should be easy to master and efficient to use by either researchers or clerical support staff. Editing is also important when commercial records are incorporated, e.g., MEDLINE records include significant items in the "source" field, and editing is needed before publishable bibliographies can be produced because of journals' punctuation, spacing, and other requirements.

The ability to assist the end user in searching national databases is the fourth attribute. Software should provide for presearch strategy building, uploading the search, saving successful strategies, flexibility in downloading all or selected records, and descriptions of relevant commercial databases. Vendors are making considerable progress in improving ease of searching. A number of inexpensive stand-alone software products can be used to download records for later processing by the bibliographic software. When using software, care must be taken to ensure that downloaded records are compatible with the bibliographic software.

Fifth, superior bibliography generation is

TABLE 1
PRODUCTS COMPARED

	Ref-11	Reference Manager	Sapana Cardfile	Sci-Mate	Searcher's Tool Kit
Key Characteristics					
Produce ASCII file of bibliographic records	yes	yes	no	yes	yes
Download commercial database records	yes	yes	no	yes	yes
Editor's utility	average	average	average	average	above average
Searching of Commercial Databases					
Search	no	no	no	yes	yes
Dial	no	no	no	yes	yes
Automatically submit password	no	no	no	yes	yes
Charges for search display	no	no	no	yes	yes
Selective downloading	no	no	no	yes	yes
Number of searchable databases	0	0	0	500+	400+
Bibliographies					
Number of punctuation formats	create	journals*	no	15	7
Automatically renumber citations	yes	yes	no	yes	yes
Reuse citation in later bibliographies	yes	yes	no	yes	yes
Generates automatic footnote	yes	yes	no	yes	yes
Inserts citation	yes	yes	no	yes	yes
Reports					
Duplicate records	yes	no	no	no	yes
Alphabetic by field(s)	some	no	no	yes	some
Searching					
Boolean logic	yes	yes	unclear	yes	yes
By specific fields	yes	yes	yes	yes	yes
By record numbers	yes	yes	yes	yes	yes
By entire record	unclear	no	no	yes	yes
Updates and Cost					
Updated product	yes	yes	yes	yes	yes
Toll-free telephone number	no	yes	no	yes	no
Cost of product**	$350	$577?	$185	$640	$995
Copies sold by summer 1987	8,000	2,000?	720	4000	4,500
Miscellaneous					
Installation ease	difficult	easy	easy	average	difficult
Use of manual	difficult	easy	easy	average	average
Copy protected	no	yes	no	no	yes
Help screens	no	no	no	yes	yes
Records per file	no limit	32,000	?	32,000	32,000

*100+ common journal formats are included. A format is typically created by a national group and encompasses journals, books, reports, unpublished works, etc.

**Cost listed is for the entire product. In some cases, parts of the product stand alone and can be purchased separately.

expected. The bibliographies should be easily manipulated to conform to the style required. In addition, footnotes and references from the bibliography should be automatically insertable into a manuscript. A reference used in one manuscript should be easily moved to another bibliography. These functions must be performed efficiently and manuals should not be filled with jargon.

Reports on number, source, and existence of hardcopy and its location should be obtainable for each record in the office database. Duplicate records reports, status of hardcopy ordered, and alpha-

betical sorting by field are only a few of the options that should be expected. For example, many libraries shelve journals alphabetically by title, so the software should be able to sort records alphabetically by journal title.

Updates are important because a product that can accommodate newer database files and take advantage of new hardware and operating systems has greater long-term utility.

The final attribute is price, although it is probably better for a library not to support an inexpensive, limited product. This does not mean that high prices must be paid for good bibliographic software; it is possible to take advantage of competition in this market, as with any other.

Promoting Bibliographic Database Software

Whether or not the library decides to give public support to a product is an internal decision based on resources at hand, perceived role of the library in the organization, and willingness of the staff to undertake additional duties. After a preliminary review of various software products, the University of Connecticut Health Center Library selected one to support. An agreement was signed with the producer providing price discounts. More than half of that discount has been passed along to faculty who purchase the software through the library. The library is responsible for teaching patrons how to use the package and for helping them to solve problems. The library does not receive income directly from the vendors; therefore, if a better package appears, it can be adopted.

The library has sponsored free software demonstrations and two-day seminars have been offered for a $100 fee, which is reduced by half if the participant purchases the software. The seminars' purpose is to ensure that patrons know and can use the entire capabilities of the software. Seminars, limited to six attendees, consist of commercial database searching, downloading, report generation, bibliography production, and reference insertion into manuscripts. A working knowledge of microcomputers is a prerequisite.

Software support also includes installation into the patron's hardware. Communications problems have ranged from defective hardware to reworking the software installation to support a 2400 baud system operating at 8Mh. The hardware problem was considered the patron's responsibility; the installation/speed solution was part of the library's support service.

After eighteen months of offering this service, we have found that each patron used the product relative to his or her needs. For example, one user studying for board certification downloaded five years of records from his professional society's journal. He sorted the bibliographic records, which included abstracts, by board subject categories, then added notes to the abstracts to help with his review efforts. This project resulted in the purchase of more than 660 records from MEDLINE. He now has an electronic index to a key publication in his field.

Not all users were as directed as the patron above. A seminar attendee who was performing research and development downloaded over 1,400 records and encountered a serious problem within six months. On numerous occasions the researcher would search his personal office database, frequently copying the resulting hits into a separate file. The duplicate records completely filled the large hard disk system. Frustrated, he coined a word to describe the computer's ability to quickly create duplicate records—the "amoeba syndrome." Some discipline is needed at the office level to prevent the amoeba syndrome.

Seminar attendees follow a typical pattern: initially they exhibit a high activity level and interest in learning the software, so assistance is frequently requested (typically given within the attendee's office). However, within two to three months requests for support fall off; patrons have mastered the product. This allows library personnel time to train the next group.

Discussion

At present, the most difficult administrative questions asked by patrons center on building departmental databases. Software recommendation, installation, training, and cost are relatively easy issues for the library. Much harder are the questions concerning the scope of the database, responsibility for weeding unwanted records, number of files needed by each user, and database security requirements.

Recommendations from colleagues, advertisements, "experts," and blind faith—rarely a computer center—are common methods researchers use to identify bibliographic database software. This haphazard approach has caused costly mistakes, duplicate effort in surveying products, purchase of unsuitable and therefore unused products, and wasted time.

Librarians have great understanding of bibliographic database structure and services, bibliographic records, and the usefulness of new

commercial database files. They can assist their organizations by asking the right questions and providing a critical evaluation of vendor's claims. There is too much software produced each year to be mastered by any one group. As librarians learn more about bibliographic computer software, they should consider assisting patrons within the office setting.

This new environment is not without potential problems. Once a library has decided to recommend specific bibliographic software based on the patrons' needs, it should be prepared to support the product with expertise and knowledge. Given patrons' varying computer knowledge, equipment, and financial resources, this new role will require time, patience, and willingness to risk occasional failure when the patron's expectations exceed the capabilities of the software. In spite of these potential difficulties, librarians with expertise in off-the-shelf bibliographic software are valuable consultants for patrons.

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